

Recent Advances in Sterol Research Presented at the 99th AOCS Annual Meeting & Expo in Seattle Washington, May 2008

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Since 1970, AOCS has been a regular host to the sterol symposia. Table 1 summarizes the history of the AOCS Sterol Symposium Series. The pioneers who established the AOCS Sterol Symposium during its first decade include Dr. Henry W. Kircher (University of Arizona, an expert on natural product chemistry and insect-sterol ecology), Dr. James W. Hendrix (University of Kentucky, an expert on fungal sterols), Dr. John L. Laseter (University of New Orleans, an expert on the analysis of sterols by gas chromatography), Dr. William R. Nes (Drexel University, a bioorganic chemist and an expert on the structure, function and evolution of sterols, and whose research accomplishments were commemorated in *Steroids* 53:261–648, 1989),

and Dr. Erich Heftmann (Western Regional Research Center, USDA, ARS, a biochemist and an expert on the chromatography and biosynthesis of plant sterols, and whose research accomplishments were commemorated in *J Chromatogr A* 452, 1–634, 1988). Throughout the years the sterol symposia have focused on current research in the areas of sterol structure, biosynthesis, chemistry, regulation, and function.

The 2008 Sterol Symposium, “Recent Advances in Sterol Research,” was held at the AOCS Annual Meeting in Seattle, Washington. This year the symposium held special significance, for it hosted the presentation of the fourth G. J. Schroepfer Jr. Award for sterol research. The Award was established to honor the memory of Dr. George J. Schroepfer Jr., a prominent sterol biochemist and chemist who made major and lasting contributions to the sterol field. Much of his research dealt with the biosynthesis of cholesterol and its regulation. In addition, he maintained a strong organic synthesis program to support his biochemical studies. A biography describing many of Dr. Schroepfer’s contributions can be found in this journal (Wilson, W. K. *Lipids* 35, 242, 2000). Dr. Schroepfer was scheduled to be the keynote speaker at the sterol symposium in Orlando, Florida, in 1999, but unfortunately, he passed away on 11 December 1998. The three previous recipients of the Schroepfer Award were Professor Geoffrey Gibbons (2002), Professor Jan Sjövall (2004) and Professor Ingemar Björkhem (2006).

The fourth recipient of the G. J. Schroepfer Jr. Award for sterol research was Professor Michel Rohmer from the Institute of Chemistry at the University Louis Pasteur/CNRS in Strasbourg, France. Professor Rohmer, a member of the French Academy of Sciences, has made major contributions to the sterol field and we were pleased when we learned that he had been chosen to receive this

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Table 1 History of AOCS sterol symposia

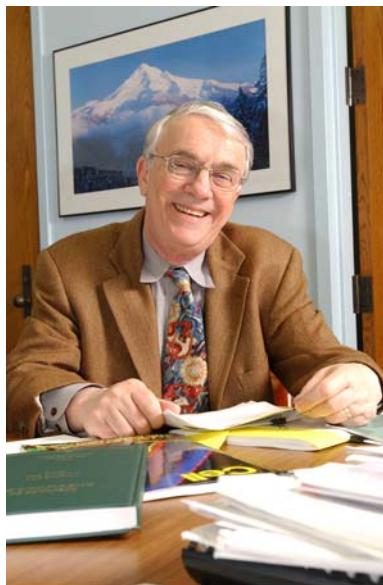
Year	Location	Organizers	Schroepfer Award recipients
1970	New Orleans	H. Kircher	
1971	Houston	J. Hendrix	
1973	New Orleans	J. L. Laster	
1974	Philadelphia	H. Kircher	
1978	St. Louis	W. R. Nes, E. Heftmann	
1980	New York	H. Kircher, E. Heftmann	
1981	New Orleans	H. Kircher, W. R. Nes	
1985	Philadelphia	W. D. Nes, L. W. Parks	
1986	Honolulu	G. W. Patterson	
1990	Baltimore	J. D. Weete, G. W. Patterson	
1994	Atlanta	W. D. Nes, E. J. Parish	
1996	Indianapolis	W. D. Nes, R. A. Norton	
1997	Seattle	E. J. Parish, W. D. Nes	
1999	Orlando	J. D. Weete, E. J. Parish, W. D. Nes	
2002	Montreal	E. J. Parish, W. D. Nes, J. R. Williams	G. F. Gibbons
2004	Cincinnati	E. J. Parish, R. A. Moreau, I. Ikeda, W. D. Nes, J. R. Williams	J. Sjövall
2006	St. Louis	E. J. Parish, R. A. Moreau, T. J. Bach, W. D. Nes, J. R. Williams	I. Björkhem
2008	Seattle	R. A. Moreau, W. D. Nes, T. J. Bach, E. J. Parish, J. Zawistowski	M. Rohmer
2010	Phoenix		

prestigious award. Professor Rohmer is well known for research on the discovery of bacterial hopanoids and on the elucidation of the mevalonate-independent methylerythritol phosphate (MEP) biosynthetic pathway (sometime called the non-mevalonate pathway), a second pathway for the biosynthesis of terpenes. Although it was previously thought that all terpenes were synthesized via the mevalonate (MVA) pathway, the research of Professor Rohmer and his collaborators established that terpenoids are synthesized by the alternative MEP route in most bacteria (e.g. triterpenes of the hopane series, the prenyl chains of ubiquinone), in unicellular green algae (all terpenoids including the sterols), as well as in the chloroplasts in plants (carotenoids, the phytol portion of

chlorophyll, the prenyl chain of plastoquinone). The same pathway was shown to be involved in the formation of other terpene series in plant plastids (hemi-, mono- and diterpenes), whereas the cytoplasmic MVA pathway is involved in the biosynthesis of sterols and the prenyl chain of ubiquinone. Professor Rohmer's research accomplishments are described in detail in the first paper in this issue and were also summarized in a recent article that he has authored (Rohmer, M. Nonprogrammed research: discovery of the mevalonate-independent methylerythritol phosphate pathway for the formation of isoprene units in bacteria and plants. *Inform* 19, 482–485, 2008).

**Professor Michel Rohmer**

In this year's Sterol Symposium, Professor Michael Waterman from Vanderbilt University was also honored for his long and productive career and for his significant contributions to the field of steroid biochemistry, especially for his pioneering research into the role of various cytochrome P450 enzymes in the steroid biosynthetic pathway. Several of Professor Waterman's colleagues (students, postdocs, and other collaborators) were invited to present seminars describing their individual accomplishments and the positive influence that Professor Waterman had on their careers. The colleagues included I. Pikuleva (Case Western Reserve University), M. Sewer (Georgia Institute of Technology), R. Bernhardt (Universität des Saarlandes), S. K. Kelley (Swansea University), R. Peters (Iowa State University), J. Noel (The Salk Institute) and G. Lepesheva (Vanderbilt University).



Professor Michael Waterman

As with past sterol symposia, we are indebted to our corporate partners who helped make the symposium a success. This year, Forbes Medi-Tech generously supported our symposium. We appreciate their contribution and look forward to their continued support of our symposium series. We also appreciate the support of the Biotechnology Division of AOCS for their long commitment to support the AOCS Sterol Symposium. We are looking forward to the next sterol symposium which will be held at the 101st Annual Meeting and Expo of the American Oil Chemists' Society, 16–19 May 2010, in Phoenix, Arizona.